NORTEL

Product Brief

Nortel Ethernet Routing Switch 3510-24T

Cost-effective Gigabit switching for small and medium businesses and branch offices

Nortel Ethernet Routing Switch 3510-24T is designed to address the needs of small and medium businesses or a branch office of an enterprise and brings inexpensive Gigabit desktop connectivity to them. The switch provides investment protection by allowing devices to be connected at either 10 Mbps, 100 Mbps or 1,000 Mbps to accommodate the ever-growing bandwidth and low delay requirements to end users running critical business applications. Customers can now take full performance advantage of PCs, laptops and servers that are gigabit-enabled.

Ease of configuration using Nortel's Java™ Device Manager software or Web-based management save customers significant time in setting up the switch. Also, these features require minimal technical expertise to configure the switch. In addition, the switch provides small and medium business and branch offices with the comfort of knowing that this product will continue to provide advanced features as the network requirements continue to evolve.

Ethernet Routing Switch 3510-24T is a standalone 24-port 10/100/1000 Mbps Ethernet Layer 3 routing switch with four SFP (Small Form factor Pluggable) uplink ports for fiber connection. For the branch office application, the switch also offers advanced features such as Multi-Link Trunking, IGMP Snooping, VLAN Trunking and flexible management tools to help you efficiently manage your network traffic.

Figure 1. The Ethernet Routing Switch 3510-24T

3510 Switch benefits

- Affordable high-performance desktop switching
- Ease of configuration using Nortel's Java™ Device Manager software or a Web browser
- Space savings with compact design
- Wire-speed operation assures high performance
- Hardware-based Layer 3 routing at wire-speed
- QoS support for mission-critical applications
- Secure access helps prevent unauthorized user access
- Worry-free lifetime warranty

Features and benefits

Highest-density Gigabit desktop switching

The Ethernet Routing Switch 3510-24T features 24 10/100/1000BASE-T RJ-45 ports for desktop switching and four built-in shared SFP (Small Form factor Pluggable) ports for uplink connectivity to servers or backbone switches. Port 21 through 24 offer configuration flexibility by allowing the network administrator to configure each port as either 10/100/1000 or make use of the built-in SFP.

Wire-speed performance

Gigabit performance improves employee productivity by accelerating data transfer of larger file sizes such as graphics and multimedia.

Layer 3 Switching

The Ethernet Routing Switch 3510 supports high-performance wire-speed Layer 3 IP routing between VLANs. IP routing with static routes at the edge improves the network performance as the packets do not have to go to the core and the routing takes place within the switch.

The switch supports the DHCP (Dynamic Host Configuration Protocol) Relay feature that provides the system with the ability to relay DHCP requests to the DHCP server and eliminates the need for a DHCP server on every subnet. It forwards a request for an IP address from a client to a DHCP server across subnets.

Software feature enhancements are planned to include support for routing protocols such as Routing Information Protocol (RIP v1/v2)†.

Compact form factor

The Ethernet Routing Switch 3510 is offered in a compact one-rack unit high design.

Lifetime warranty

The Ethernet Routing Switch 3510 offers a lifetime warranty. Customers demand quality products and companies that stand behind them. Visit *http://www.nortelnetworks.com/products/01/serv_prog/warranty.html* for further details.

Multi-Link Trunking

Multi-Link Trunking (MLT) enables grouping of links between the Ethernet Routing Switch 3510 and another switch or server to provide greater bandwidth with active redundant links. Multi-Link Trunking allows the trunked ports to offer fail-safe connectivity to mission-critical servers and the network center.

Each trunk consists of up to four members per trunk. Each trunk can provide bandwidth of up to 8 Gbps.

IPv6 filtering and classification

Ethernet Routing Switch 3510 is able to identify, prioritize, classify and redirect IPv6 traffic to a router. These switches can address the need for larger addressing and tighter security as the networks grow.

Jumbo frame support for larger file applications

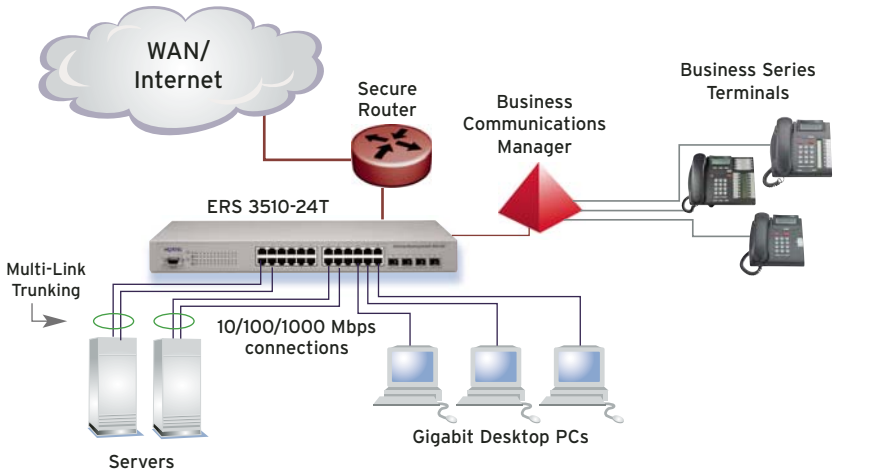
Jumbo frame support of up to 9,216 bytes is provided on each port for applications requiring large frames such as graphics and video applications.

Quality of Service (QoS)

The QoS features of the Ethernet Routing Switch 3510 Switch allow users to not only utilize bandwidth more efficiently, optimizing existing network resources and capabilities, but also provide packet classification and marking at the edge of the network, simplifying the QoS deployment at the aggregation and core of the network. By classifying, prioritizing, policing and marking LAN traffic (based on DiffServ, Code Point and 802.1p), networks can offer reliable connectivity and required bandwidth for mission-critical applications, such as IP telephony, to specific groups, users and individual devices.

For each of these applications, advanced QoS features support Internet Engineering Task Force (IETF), the standard DiffServ QoS architecture — a packet classification based on the content of IP packet header fields (voice, video, data) — as well as traffic policing.

Figure 2. Small and medium business or branch solution



QoS and policy management

DiffServ QoS enables networks to read, alter, prioritize, tag or mark IP packets based upon information embedded in the Type of Service (ToS) field. The level of service can be marked in the embedded information inside the ToS field of each IP packet. DiffServ is based on the ToS field. Ethernet Routing Switch 3510 has application-specific integrated circuits (ASICs) to enable the DiffServ Code Point (DSCP) to be mapped to the IEEE 802.1p user priority bits to provide consistent QoS at Layer 3 (IP) and Layer 2 (Ethernet). The QoS policies can be configured via the switch's built-in Web-based management tools to facilitate QoS. Alternatively, Enterprise Policy Manager (formerly known as Optivity* Policy Services) can be utilized for dynamic end-to-end enterprise-wide policy and QoS management.

Simplified QoS

Ethernet Routing Switch 3510 supports Network Service Classes (NSCs) which provide simplified QoS provisioning. NSC provides factory-default QoS configurations, eliminating the complexities often associated with QoS-enabled network deployments.

NSC provides default settings such as:

- DSCP marking per class
- DiffServ forwarding behavior (PHB) per class
- DSCP to queue mapping
- DSCP to 802.1p mapping
- Default scheduler per class

By classifying the traffic and placing it into an NSC, complex QoS configurations are eliminated. NSC simplifies the deployment of a QoS-enabled network with Nortel switching solutions, using a Web-based interface. This not only saves on provisioning time but, most importantly, ensures that the QoS functions are provisioned consistently across the network.

Queuing function

Ethernet Routing Switch 3510 provides network availability for mission-critical applications, devices and users by classifying, prioritizing and marking LAN IP traffic using up to eight hardware-based queues on every port. This is based on the following parameters:

- MAC address-based filtering
- IP ToS/DSCP marking
- IP source address/destination address or subnets
- TCP/UDP source/destination port/port range
- IEEE 802.1p user priority bits
- Ingress source port
- IP Protocol ID (e.g., TCP, UDP, IGMP)
- EtherType (e.g., IP, IPX)
- IEEE 802.1Q VLAN ID

Ethernet Routing Switch 3510 also has the ability to read packets that have been marked from other devices such as the Ethernet Routing Switch 8600 (formerly known as the Passport* 8600). Additionally, weighted round robin prevents normal priority traffic from being starved by expedited traffic (on a per-packet basis). Ethernet Routing Switch 3510 also supports strict priority queuing.

Quality of Service provisioning

With Enterprise Policy Manager software, policies can be created through a simple and intuitive drag-and-drop workflow. Enterprise Policy Manager software is the Policy Decision Point in a DiffServ QoS implementation.

Further benefits include:

- Simple intuitive policy creation
- Ability to re-use common filter sets
- Provision of a network-wide view of policies currently in use
- Ability to avoid QoS provisioning errors
- Centrally managed DSCP and 802.1p queue mapping tables
- Saved time in provisioning the network — as thousands of CLI or Web transactions are reduced to a few simple actions

Traffic policing

Traffic policing enables provisioning of different levels of service by limiting traffic throughput at the ingress (incoming) port of the Ethernet Routing Switch 3510. For example, if a port is set to a certain speed, such as 10 Mbps, all traffic under 10 Mbps on that port will pass, and traffic that exceeds 10 Mbps on that same port is dropped. Service providers will find this especially useful to control bandwidth to their customers. Up to 64 traffic meters per port are provided and yield higher resolution for control.

Enhanced security

The Ethernet Routing Switch 3510 offers the highest level of security with features including IEEE 802.1x-based security (also known as Extensible Authentication Protocol [EAP]), assignment of proper VLAN and priority, Simple Network Management Protocol (SNMPv3), IP Manager List, MAC-address-based security and Remote Authentication Dial-In User Service (RADIUS) authentication.

The IEEE 802.1x-based security feature limits access to the network based on user credentials. A user is required to "login" to the network using a username/password; the user database is maintained on the authentication server (not the switch). Network connectivity without password authorization is prevented. This feature is useful where the network is not 100 percent physically secure or where physical security needs enhancement; for example, banks, trading rooms or classroom training facilities. This feature supports client access to the network and interoperates with Microsoft Windows XP and other

compliant 802.1x clients. 802.1x is also known as Extensible Authentication Protocol (EAP).

SNMPv3 provides user authentication and data encryption for higher security. It also offers secure configuration and monitoring.

IP Manager List limits access to the management features of the Ethernet Routing Switch 3510 by a defined list of IP addresses or IP address ranges/ subnets, providing greater network security and manageability.

MAC address-based security allows authentication of all access, not only to the switches for management and configurations, but also access to the infrastructure through these switches. This software feature limits access to only network-authorized and trusted personnel, including full tracking of network connections. With this feature, network access is granted or denied via proper MAC-address identification (up to a maximum of 448). In addition, with the Distributed Access List Security feature, network access is granted or denied on a per-port basis. Ethernet Routing Switch 3510 also provides RADIUS authentication for switch security management.

MAC addresses

Ethernet Routing Switch 3510 supports up to 8,000 MAC addresses. For deployment of large-scale, enterprise networks with many attached devices and workgroups, this permits scalability to be achieved in a cost-effective manner.

VLAN support

VLANs can be established for each switch to extend the broadcast domain and segment network traffic. These VLANs can be spread among port-based or protocol-based VLANs. The VLANs can be on a standalone switch. Protocol-based VLANs allow switch ports to be assigned to a broadcast domain based on the protocol information within the packet. These VLANs localize broadcast traffic and assure that the specified protocol type packets are sent only to the protocol-based VLAN ports. The Ethernet Routing Switch 3510 supports 256 VLANs. Ethernet Routing Switch 3510 also supports per VLAN Tagging option on each port.

IGMP snooping

Ethernet Routing Switch 3510 features IP Multicast support by examining ('snooping') all Internet Group Multicast Protocol (IGMP) traffic in hardware at line rate, and pruning unwanted data streams from affecting network or end-station performance. Up to 256 IGMP groups are supported.

Multiple Spanning Tree protocol groups

Ethernet Routing Switch 3510 supports multiple Spanning Tree Groups (STGs) in a single standalone switch. STGs provide multiple data paths which can be used for load-balancing and redundancy. The Ethernet Routing Switch 3510 supports eight STGs. The switch architecture will support IEEE 802.1s and 802.1w†.

Industry-standard Command Line Interface (CLI)

The CLI is used to automate general management and configuration of Ethernet Routing Switch 3510. The CLI is used through a Telnet session or through the serial port on the console.

ASCII configuration files

Ethernet Routing Switch 3510 can download a user-editable ASCII configuration file from a TFTP (Trivial File Transfer Protocol) server. The ASCII configuration file can be loaded automatically at boot time or on-demand using the management systems (console menus or CLI). Once downloaded, the configuration file automatically configures the switch according to the NNCLI commands in the file. This feature provides administrators with the flexibility of creating command configuration files that can be used on several switches with minor modifications.

The configuration settings of the switch can be displayed or saved to an external ASCII configuration file made up of a series of CLI commands. This editable ASCII configuration file can then be uploaded to a switch from an external file server. The ASCII configuration file contains configuration settings for the following network management applications:

- Core applications (system information, topology, etc.)
- Internet Protocol
- Multi-Link Trunking (MLT)
- Port configuration
- Partial Spanning Tree configuration, including configuration of port priority and path cost
- VLAN configuration
- Quality of Service (QoS)
- RMON

Custom Auto-Negotiation Advertisements (CANA)

This feature enables the network manager to tune the capabilities that a particular Ethernet port can advertise via auto-negotiation. The capabilities include half-duplex and full-duplex modes with speeds of 10, 100 and 1000 Mbps. Auto-negotiated Ethernet ports establish a connection based upon the highest common capabilities. This feature saves the network manager from having to go to each workstation and switch to configure a "fixed" speed.

Customizable queue/buffer allocation

Using this feature, the network administrator is able to specify the number of CoS queues supported and the buffering resources that may be consumed by a given port. It allows the network administrator to tune the use of system resources based upon their business needs.

Auto MDI/MDIX

Ethernet Routing Switch 3510 can be connected to a hub, computer or another switch quickly and cost effectively with either a crossover or straight-through cable. When a cable is connected to one of the 10/100/1000 ports on the switch, the switch port automatically detects the energy on the cable and configures itself. This feature eliminates the need for an MDI/MDIX port; any port may be used for connection to a hub or switch.

Common look and feel

Nortel Ethernet Routing Switches, including the 3510, have a common "look and feel" which reduces training costs. This allows the switches to be managed in a similar fashion via a broad set of management tools. These tools include Web, Nortel Java™-based Device Manager (JDM), Command Line Interface (CLI), menus, Enterprise Network Management System† (formerly known as Optivity Network Management System [ONMS]), Ethernet Switching Element Manager† (formerly known as Optivity Switch Manager [OSM]) and Enterprise Policy Manager†.

Web-based management

Web-based network management makes managing the Ethernet Routing Switch 3510 easy with a Web browser. Summary, configuration, fault, statistics, application, administration and support pages can be provided for the switch. Traffic classification and prioritization can be set via the Web-based QoS Wizard and advanced configuration tool. The Web interface also allows for static configuration of numerous parameters of the device.

Network management

On-box management

Network management begins with the device. Ethernet Routing Switch 3510 supports four groups of Remote Monitoring (RMON) on all ports and is SNMPv3-compliant. RMON2 support is achievable via port mirroring and the use of an external probe. The SNMP agent software resides in the switch and uses the information it collects to provide management for all ports in the switch providing comprehensive network monitoring capabilities.

Configuration management

The process of configuration begins with a single device but finishes across multiple devices. Java Device Manager is the device configuration tool for those functions that require communicating with a single device. It uses a common user interface and workflow that supports many Nortel Ethernet switches. This commonality allows the network manager to become familiar with one tool instead of multiple tools. Ethernet Switching Element Manager† is another tool that performs the configuration function such as VLAN assignments, MLT and Multicast across multiple Nortel Ethernet Routing Switches.

Policy-management

Enterprise Policy Manager† — a suite of policy-management software that enforces business-level policies automatically across the network — now supports Ethernet Routing Switch 3510. Enterprise Policy Manager† supports network managers by providing centralized control of advanced packet classification and the ability to priority mark, police, meter or block traffic.

Fault management and resolution

With Enterprise Network Management System (ENMS)†, the network manager has quick access to the information required to manage and isolate all network events on Ethernet Routing Switch 3510. Tools, such as Physical Topology View, inform the network manager how a particular event is affecting the physical connectivity within the network. The 'End Node Locate' tool provides the ability to locate a failing end node and, with one mouse click, provide access to the RMON statistics for the failing Ethernet port supporting that end node. These solutions provide visual and statistical tools necessary to quickly resolve any network event or manage performance in real-time. The Ethernet Routing Switch 3510 supports "syslog" capability that helps in troubleshooting network issues.

Port mirroring

The port mirroring feature (sometimes referred to as 'conversation steering') allows the network administrator to designate a single switch port as a traffic monitor for a specified port. Port-based monitoring can be specified for ingress and egress at a specific port. MAC address-based mirroring can also be specified. Additionally, an external probe device can be attached to the designated monitor port.

LED indicators

The LED indicators on the front panel make it easy to monitor the switch status and help in isolating and diagnosing switch problems. These indicators include "Power," "Speed" and "LNK/ACT" functions.

Summary

With more than 100 years in telecommunications, Nortel is uniquely positioned to help your business reduce costs by combining voice and data into an integrated system. Why take a chance on a vendor that only understands part of the equation? Let us show you how the Ethernet Routing Switch 3510, along with other Nortel products, can increase your profitability, streamline your business operations, increase productivity, and help you gain the competitive edge.

Technical specifications

Table 1. Ethernet Routing Switch 3510-24T technical specifications

Physical specifications

Weight: 3.2 kg (7 lb)

Height: 4.45 cm (1.75 in)

Width: 43.82 cm (17.25 in)

Depth: 20.80 cm (8.19 in)

Performance specifications

- Switch fabric bandwidth 80 Gbps for the switch
- Frame forwarding rate 35.7 Mpps (million packets per second) for 3510-24T

Port forwarding/filtering performance

- For 10 Mbps: 14,880 pps maximum (64-byte packets)
- For 100 Mbps: 148,810 pps maximum
- For 1000 Mbps: 1,488,100 pps maximum
- Address database size: 8,000 entries at line rate (8,000 entries without flooding)
- Addressing: 48-bit MAC address
- Frame length: 64 to 1518 bytes (IEEE 802.1Q Untagged)
- 64 to 1,522 bytes (IEEE 802.1Q Tagged)
- Jumbo frame support: Up to 9,216 bytes
- Multi-Link Trunks: Six trunks, four members per trunk
- VLANs: 256 port-based or protocol-based VLANs Tagging option
- Multiple Spanning Tree Groups: Up to eight STGs

Interface options

- 10BASE-T/100BASE-TX/RJ-45 (8-pin modular) connectors for Auto MDI/MDI-X interface
- 1000BASE-T with auto-polarity

The Ethernet Routing Switch 3510 supports the following SFP GBICs:

- 1000BASE-SX uses short wavelength 850 nm MTRJ or LC type fiber optic connectors to connect devices over multimode (275m, 62.5um core or 350m, 50.0um core) fiber optic cable
- 1000BASE-LX uses long wavelength 1300nm duplex LC type fiber optic connector to connect devices over single mode (10km, 9um core) fiber optic cable
- 1000BASE-CWDM uses long wavelength 1470, 1490, 1510, 1530, 1350, 1570, 1590, 1610nm LC type fiber optic connector to connect devices over single mode (40km, 9um core or 70km, 9um core) fiber optic cable

Network protocol and standards compatibility

- IEEE 802.3 10BASE-T (ISO/IEC 8802 3, Clause 14)
- IEEE 802.3u 100BASE-TX (ISO/IEC 8802-3, Clause 25)
- IEEE 802.3u Autonegotiation on Twisted Pair (ISO/IEC 8802-3, Clause 28)
- IEEE 802.3x (Flow Control on the Gigabit Uplink port)
- IEEE 802.3z 1000BASE-SX and 1000BASE-LX
- IEEE 802.1d MAC Bridges (ISO/IEC 10038)
- IEEE 802.1p (Prioritizing)
- IEEE 802.1Q (VLAN Tagging)
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.3ad (manual/static)IEEE 802.3ad (LACP)†
- IEEE 802.1s†
- IEEE 802.1w†
- IETF DiffServ

RFC support

RFC 1213 (MIB-II); RFC 1493 (Bridge MIB); RFC 1573 (IF-MIB); RFC 2863 (Interfaces Group MIB); RFC 2665 (Ethernet MIB); RFC 2737 (Entity MIBv2); RFC 2819 (RMON MIB); RFC 1757 (RMON); RFC 1271 (RMON); RFC 1157 (SNMP); RFC 2570 (SNMPv3); RFC 2571 (SNMP Frameworks); RFC 2573 (SNMPv3 Applications); RFC 2574 (SNMPv3 USM); RFC 2575 (SNMPv3 VACM); RFC 2576 (SNMPv3); RFC 2572 (SNMP Message Processing) RFC 791 (IP); RFC 792 (ICMP); RFC 793 (TCP); RFC 783 (TFTP); RFC 826 (ARP); RFC 768 (UDP); RFC 854 (TELNET); RFC951 (Bootp); RFC 2236 (IGMPv2); RFC 1112 (IGMPv1); RFC 1945 (HTTP v1.0); RFC 2138 (RADIUS); RFC 894 (IP over Ethernet); RFC 2674 (Q MIB); RFC 1058/RFC 1723 (RIPv1/v2)†; RFC 2030 (SNTP [Simple NTP])

Electrical specifications

- Input voltage (AC version): 100-240 VAC (+/- 10%) @ 47 to 63 Hz
- Input power consumption: (AC version): 90 W max
- Input current (AC version): 0.8 A maximum
- Input voltage (rms): 100 to 240 VAC at 50 to 60 Hz
- Maximum thermal output: 310 BTU/hr

Environmental specifications

- Operating temperature: 0° to 45°C (32° to 113°F)
- Storage temperature: –25° to +70°C (-13° to 158°F)
- Operating humidity: 85% maximum relative humidity, non-condensing
- Storage humidity: 95% maximum relative humidity, non-condensing
- Operating altitude: Up to 3,024 m (10,000 ft.) above sea level
- Storage altitude: Up to 3,024 m (10,000 ft.) above sea level

Mean time between failures (MTBF)

- 335,000 hours

Safety agency approvals

- UL60950
- CSA 22.2 No. 60950 (cUL)
- IEC 60950/EN 60950, CB report and certificate with all national deviations
- UL-94-V1 flammability requirements for PC board
- NOM-019 (NOM)

Electromagnetic emissions summary

Meets the following standards:

- US: CFR47, Part 15, Subpart B, Class A
- Canada: ICES-003, Issue 3, Class A
- Australia/New Zealand: AS/NZS 3548:1995
- A1:1997/A2:1997 class A
- Japan: VCCI-V-3/02.04 class A
- Taiwan: CNS 13438, Class A

EN55022:1998/A1:2000

- EN61000-3-2:2000
- EN61000-3-3:1995/A1:2001

Electromagnetic immunity

- The module meets the EN55024:1998/A1:2000 standard.

Declaration of Conformity

As stated in the Declaration of Conformity, the Ethernet Routing Switch 3510 complies with the provisions of Council Directives 89/336/EEC and 73/23/EEC.

† *Future software release*

Ordering information

Table 2. Ethernet Routing Switch 3510 ordering information

Order No.	Description
AL1001?08**	Ethernet Routing Switch 3510-24T (24 10/100/1000BaseT ports plus 4 built-in fiber mini-GBIC slots)
AL2011013	Console cable for use with Ethernet Routing Switches
AA1419013	1-port 1000BASE-SX SFP GBIC (LC connector)
AA1419014	1-port 1000BASE-SX SFP GBIC (MT-RJ connector)
AA1419015	1-port 1000BASE-LX SFP GBIC (LC connector)
AA1419025	1-port 1000BASE-CWDM SFP GBIC — 1470nm Wavelength (40km), LC connector
AA1419026	1-port 1000BASE-CWDM SFP GBIC — 1490nm Wavelength (40km), LC connector
AA1419027	1-port 1000BASE-CWDM SFP GBIC — 1510nm Wavelength (40km), LC connector
AA1419028	1-port 1000BASE-CWDM SFP GBIC — 1530nm Wavelength (40km), LC connector
AA1419029	1-port 1000BASE-CWDM SFP GBIC — 1350nm Wavelength (40km), LC connector
AA1419030	1-port 1000BASE-CWDM SFP GBIC — 1570nm Wavelength (40km), LC connector
AA1419031	1-port 1000BASE-CWDM SFP GBIC — 1590nm Wavelength (40km), LC connector
AA1419032	1-port 1000BASE-CWDM SFP GBIC — 1610nm Wavelength (40km), LC connector
AA1419033	1-port 1000BASE-CWDM SFP GBIC — 1470nm Wavelength (70km), LC connector
AA1419034	1-port 1000BASE-CWDM SFP GBIC — 1490nm Wavelength (70km), LC connector
AA1419035	1-port 1000BASE-CWDM SFP GBIC — 1510nm Wavelength (70km), LC connector
AA1419036	1-port 1000BASE-CWDM SFP GBIC — 1530nm Wavelength (70km), LC connector
AA1419037	1-port 1000BASE-CWDM SFP GBIC — 1350nm Wavelength (70km), LC connector
AA1419038	1-port 1000BASE-CWDM SFP GBIC — 1570nm Wavelength (70km), LC connector
AA1419039	1-port 1000BASE-CWDM SFP GBIC — 1590nm Wavelength (70km), LC connector
AA1419040	1-port 1000BASE-CWDM SFP GBIC — 1610nm Wavelength (70km), LC connector

** The seventh character (?) of the switch order number must be replaced with the proper code to indicate desired product nationalization:

"A" — No power cord included

"B" — Includes European "Schuko" power cord common in Austria, Belgium, Finland, France, Germany, The Netherlands, Norway, and Sweden

"C" — Includes power cord commonly used in the United Kingdom and Ireland

"D" — Includes power cord commonly used in Japan

"E" — Includes North American power cord

"F" — Includes Australian power cord, also commonly used in New Zealand and the People's Republic of China

Table 3. Maintenance services

Order code	Description
GE5300922	Technical Support Service
GL5300922	Return & Replace Service
GF5300922	Managed Spares Services Pack — Next Business Day
GH5300922	Managed Spares Services Pack — 4 Hour 7x24
GJ5300922	Managed On-Site with Spares Services Pack — Next Business Day
GN5300922	Managed On-Site with Spares Services Pack — 4 Hour 7x24

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For more information, contact your Nortel representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

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